

*Descriptions of some new plants from the North-Eastern Frontiers of India.*  
—By G. KING and D. PRAIN.

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While dealing with various collections received from the North-Eastern Frontiers of the Empire in connection with the Botanical Survey of India, the writers have had to dispose of a number of species that appear to be new to science and that are unprovided with names in the Herbarium of the Royal Botanic Garden, Calcutta; the present paper contains descriptions of a few of the more notable of these. A considerable proportion of them it was necessary to have compared at Kew in order to make certain that they were unknown or unrepresented in the unrivalled collection there; our thanks are due to Mr. Thiselton-Dyer, the Director, and to Dr. Stapf, the Assistant for India in the Herbarium there, for kind assistance in connection the examination of these.

ANONACEÆ.

1. GONIOTHALAMUS PEDUNCULARIS *King & Prain*; frutex?, ramulis gracilibus glabris. *Folia* tenuiter coriacea, oblonga, plus minusve oblanceolata, breviter acuminata, basi cuneata; utrinque glabra, hebetia, subtus ex sicco pallide brunnea; nervis secundariis 10–12-jugis curvis intra marginem inosculantibus subtus plus minus prominentibus supra obsolete; petiolis brevibus 25–3 poll. longis, laminis 6·5–9 poll. longis, his 1·5–2·5 poll. latis. *Flores* solitarii erecti parum supra-axillares 1·5 poll. longi, pedicellis plus quam uncialibus adpresse puberulis, basin versus minute bracteolatis. *Sepala* carnosa, libera, ovata subacuta patentia utrinque puberula, 3 poll. longa. *Petala* carnosa, seriei exterioris oblique ovato-lanceolata, acuminata, basi angustata et incrassata ubi intus excavata, extus adpresse pubescentia intus basi puberula ceterum glabra 1·5 poll. long, 75 poll. lata; petala seriei interioris ovata, acuta basi angustata utrinque sed praesertim extus pubescentia, dimidio summo in calyptram basi 3-fenestratam cohaerentia. *Antherae*  $\infty$ , sessiles lineares apice capitatae. *Pistillia* circa 20, germina linearia, stylis linearibus pubescentibus duplo breviora. *Fructus* nondum communicatus.

In BURMA SUPERIORE: in montibus Kachin nuncupatis, *Kingii mercenar.*!

Of all the Indian species of this genus *G. peduncularis* most resembles the Ceylonese *G. Gardneri* H. f. & T. and *G. Thwaitesii* H. f. & T.

## STERCULIACEÆ.

2. *STERCULIA COGNATA* Prain; arbuscula ramulis gracilibus parce puberulis cortice brunneo obtectis. *Folia* glabra brevissime petiolata vel sessilia anguste lanceolata medio versus basin sensin attenuata apice anguste ovato-acuminata, margine integra, chartacea, subtus prominentius 25-30-nervia simulatque reticulato-venosa. *Flores* albi pedicellati pedicellis filiformibus glabris, in racemis quam folia dimidio brevioribus dispositi; *calyce* campanulato laevi intus glabro extus parvissime puberulo, lobis linearibus erecto-patentibus tubo multo longioribus. *Follicula* oblonga acuta breviter pedicellata extus velutina intus glabra utrinque rubra; semina nigra nitida subsphaerica.

In montibus Kachin nuncupatis; *Kingii mercenar.*!

*Folia* 8-12 poll. longa, .75-2.5 poll. lata, petiolis nunquam .2 poll. saepius omnino absentibus; *racemis* 4 poll. longis, pedicellis capillaribus .3 poll. longis; *floribus* .6 poll. longis; *folliculis* 2.5 poll. longis, .75 poll. latis; *seminibus* .5 poll. diam.

Nearest *S. Roxburghii*, *S. parvifolia*, and *S. striatiflora* but easily distinguished by the sessile leaves and the other characters mentioned.

## CONNARACEAE.

3. *TAENIOCHLAENA BIRMANICA* Prain; frutex ramulis puberulis teretibus cortice minute lenticellatis. *Folia* imparipinnata, foliolis 2-3-jugis, coriaceis, nervo mediano supra puberulo excepto glabris, oblongo-lanceolatis apice emarginato-caudatis basi inaequaliter cuneatis breviter petiolulatis, rachide puberulo. *Flores* in racemis brevibus vel paniculis congestis axillaribus dispositi, bracteis minutis, pedicellis longiusculis. *Calyx* basi hemisphaericus, laciniis valvatis oblongis acutis fructu revolutis. *Petala* ... *Stamina* 10, alterna paulo breviora, filamentis basi vix connatis. *Carpella* 5, sessilia, styli parum elongati, puberuli. *Capsulae* 1-3, sessiles, ovoideae, parum apiculatae, extus intusque glaberrimae. *Semen* oblongum basi arillo adnato dimidiato suffultum, testa nitida; cotyledones amygdalinae.

BURMA: in montibus Kachin nuncupatis, *Kingii mercenar.*!

*Folia* 6-8 poll. longa, rachide 3-4 poll., lamina terminali 3-5 poll. longa 1.5 poll. lata, lateralibus 1.5-3 poll. longis, petiolulis .15 poll. *Racemis* 1.5-2 poll. longis, pedicellis .3-4 poll. longis. *Capsulis* .6 poll. longis, .3 poll. latis.

Much resembles the only other known species, *T. Griffithii* Hook. fil., from Malacca, but with differently shaped leaflets and with fruits that are glabrous externally instead of pubescent.

## LEGUMINOSAE.

4. *INDIGOFERA NIGRESCENS* Kurz MSS. in *Herb. Calcutta*; fruticosa ramulis adpresse brunneo-setosis, foliis minoribus 17-21, oppositis membranaceis, atro-viridibus, utrinque sparse adpresse puberulis. *Flores* in racemis angustis, elongatis, breve pedunculatis dispositi, bracteis linearibus alabastris longioribus, pedicellis brevissimis, calyce oblique campanulato, dentibus lanceolatis tubum excedentibus. *Corolla* rosea. *Legumen* lineare turgidum, adpresse puberulum, rectum, minute apiculatum, suturis parum incrassatis; semina 6-8.

In montibus KHASIA; apud Shillong, G. Mann! Clarke n. 5848! In montibus KACHIN, piope Myitkyina, *Kingii mercenar.*! In valle Taping, YUNNAN austro-occidentalis, apud Momien, J. Anderson! In montibus SHAN, ad Maymyo, *Kingii mercenar.*!

*Folia* 3-4 poll., foliola .5-.8 poll. longa, .3-.4 poll. lata. *Racemi* 4-8 poll. longi, pedunculis 1-pollicaribus, bracteis .2 poll., calyce .05 poll. longo, corollis .2 poll. longis tantum. *Legumen* .75-.85 poll. longum; .1 poll. crassum.

Very closely related to *Indigofera atropurpurea* with which it has been often identified and under which name it is usually met with in collections. The smaller flowers with longer calyx-teeth, shorter faintly apiculate and puberulous instead of glabrescent pods, as well as the very dark green leaves with more numerous and much smaller leaflets amply distinguish it.

5. *SPATHOLOBUS POTTINGERI* Prain; frutex scandens robusta, ramis cylindraceutis gracilioribus cortice brunneis, pilisque reflexo-adpressis sparse pubescentibus. *Folia* pinnatim 3-foliolata rachide pilis patentibus pallide fusco-hirsuta, foliis subcoriaceis ambitu ovatis margine sinuatis supra uniforme subtus praesertim nervis pilis adpressis sparse hirsutis, nervo mediano subtus petiolulisque brevibus pilis patentibus strigoso, foliola terminali aequae basi late cuneata apice late truncata, nervis prominentibus lateralibus 9-jugis mediano in acumine subulato producto; foliis lateralibus paullo minoribus basi parum inaequali intus cuneatis extus ovato-rotundatis nervis lateralibus 7-8-jugis, mediano ultra apicem abrupte acutam producto, stipulis deciduis lanceolatis stipellisque persistentibus subulatis adpresse hirsutis. *Flores* racemosi in paniculis terminalibus iterum terve ramosis ramis angulatis parcius pubescentibus dispositi, bracteis bracteolisque caducis minutis, pedicellis capillaribus calyce brevioribus. *Calyx* dense olivaceo-velutinus, dente summo apice emarginato ceteris anguste deltoideis omnibus tubo parum brevioribus. *Corolla* purpurea, vexillo ungue anguste cuneato apice emarginato, petalis ceteris unguibus gracilibus calycem subaequantibus, alarum laminis angulo inferiore utrinque barbellatis.

*Stamina* 2-adelphia filamentis vaginae carinalis alternis longioribus, filamento libero vexillari quam vaginam multo brevior. *Ovarium* puberulum breviter stipitatum, ovulis 2. *Legumen* ignotum.

In montibus KACHIN nuncupatis, apud Namli, 2000 p. s. m., *Pottinger!*

*Ramulis* floriferis .25 poll. diam.; *foliis* 8 poll. longis, rachide 2.5 poll. parte terminali partem petiolarem fere aequante, petiolulis .15 poll. stipellis .2 poll. brevioribus, stipulis .25-.3 poll. longis; lamina terminali 5.5 poll. longa 4 poll. lata, lateralibus 4.5 poll. longis his 3 poll. latis, acuminibus apicalibus .3 poll. longis. *Panicula* tota pyramidalis 1.5-2-pedalis, paniculis secundariis 8-10 poll. longis, iisque ordine tertio 4-6 poll. longis, racemis singulis 1.5-2-pollicaribus, 12-20-floris, pedicellis .12 poll., calyce .2 poll., corolla .3 poll. longis.

A very fine plant nearest to the Malayan species *S. gyrocarpus* and *S. ferrugineus* but abundantly distinct from these and from all the other Indian species by the sinuate finely apiculate leaflets.

#### CRUDDASIA PRAIN.

Calycis lobi acuti, 2 superiores in unum apice minute 2-dentatum connati, caetera aequilata triangulares infimo tamen lateralibus parum longiore. Vexillum suborbiculatum, basi nec inflexum; alae oblongo-ovatae basi carinae adhaerentes; carina cymbiformis erostris alis aequilonga. Stameu vexillare caeteris arcte connatum, antherae uniformes. Ovarium sessile  $\infty$ -ovulatum; stylus filiformis incurvus sub stigmate terminali summo apice parce penicillatus ceterum glaber. Legumen elongatum, 2-valve, planum, coriaceum, compressum intus inter semina tenuiter faretum. Semina plano-compressa, suborbicularia, hilo ovato, estrophiolata. Caulis alte volubilis, foliis pinnatim 5-foliolatis, foliolis anguste ovatis, stipellatis. Stipulae spinuloso-setaceae caducae, basi fixae. Flores purpurascens, in pedunculis elongatis fasciculato-racemosi, fasciculorum rachide nodiformi. Bractee bracteolisque caducae. Calyx vexilloque extus sericeus.

Species singula, montium Kachin incola. Genus subtribubus *Galactiearum*, praesertim sectioni *Collæae* generis *Galactiae* cui etiam stamen vexillare cum ceteris medio connatum, vel *Diocliearum* praesertim generi *Puerariae* fere aequae recte attribueundum; statim tamen ab ambabus stylo more *Euphaseolarum* nonnullarum circa stigma barbato differt, ideoque potius pro genere distincto *Dioclieis* uti *Clitoria Glycineis* relato habenda.

#### 6. CRUDDASIA INSIGNIS Prain.

In montibus KACHIN nuncupatis, 5000 p. s. m., *Kingii mercenar.!*

Petici 2-4 poll. rachides communi 1.5 poll. supra canaliculati,

retro-setosi, laminae ovato-lanceolatae 3-6 poll. longae, 1·5-2·5 poll. latae, supra glabrae, subtus adpresse pubescentes, inter nervis 12-15-jugis subtus prominentibus reticulato-venosae; stipellae filiformes ·1 poll. longae, petiolulae 1·5 poll. longae; stipulae rigidae ·2 poll. longae. *Racemi* 8-12 poll. longi pedunculis 3 poll. longis, nodis vix ·2 poll. remotis, pedicellis ·12 poll. longis. *Calyx* ·2 poll. tubo campanulato dentibus aequilongo. *Corolla* ·4 poll. longa, vexillo orbiculato ·35 poll. lato, extus dense sericeo. *Legumen* 3 poll. longum, ·3 poll. latum, seminibus 10-12, ·25 poll. longis, ·2 poll. latis.

7. *PUERARIA BELLA* Prain; volubilis ramis gracilibus glabris, foliis 3-foliolatis stipulis caducis stipellis capillaribus, foliolis chartaceis ovatis longe acuminatis basi cuneatis utrinque petioloque glabris, petiolulis parce puberulis. *Flores* in racemis elongatis simplicibus vel parce ramosis dispositi, rachide parce puberulo, pedicellis brevissimis, bracteis deciduis bracteolis 2 sub calycem persistentibus cordato-ovatis parce puberulis. *Calyx* campanulatus glabrescens, segmentis 2 summis in labium apice emarginato truncatum connatis, caeteris ovatis obtusis subaequilongis omnibus tubo parum brevioribus. *Corolla* purpurea calyce plus duplo longiore, vexillo basi auriculis inflexis appendiculato, carina rectiuscula alas subaequante. *Stamen* vexillare omnino solutum, antherae uniformes. *Ovarium* sessile  $\infty$ -ovulatum stylus filiformis superue inflexus, imberbis; stigma capitatum. *Legumen* ignotum.

In montibus KACHIN nuncupatis, prope Myitkyina, *Kingii mercenar.*!

Foliola 6 poll. longa, 3 poll. lata, stipellis filiformibus ·25 poll. longis, petiolulos aequantibus. Bracteolae ·1 poll. longae. *Calyx* ·25 poll. longus. *Corolla* ·7 poll. longa.

This very distinct species belongs to the subgenus *Neustanthus*, which is marked by having entire leaves that are contemporaneous with the flowers. The general appearance of the plant most readily recalls that of *Pueraria Thunbergiana* but its stipules are not persistent as in that species and the calyx is widely different. The fact that the vexillary stamen is quite free marks it as an aberrant *Pueraria* to be placed near *P. peduncularis* which exhibits the same character. The flowers—though not the bracts—recall those of *Mastersia assamica* and till ripe fruits are reported it can not be quite certain that it should not be referred to that genus. Meanwhile it is most satisfactorily located in *Pueraria* of which it has all the facies.

8. *DERRIS LATIFOLIA* Prain; arbor alta, foliis magnis, foliolis 5-7 chartaceis ovato-lanceolatis apice acuminatis basi cuneatis vel subrotundatis. *Flores* in paniculis amplis thyrsoideis axillaribus dispositi

rachide ramisque glabris angulatis nodis nec tumidis nec productis, pedicellis distinctis approximatis; calyce glabrescente campanulato margine truncato; corollae vexillo erecto orbiculari, basi ecallosa rotundato; filamenta 2-adelphia glabra; ovario puberulo, ovulis 3. Legumen ligulatum tenue glabrum suturis utrinque alatis nec sinuatis.

In montibus KACHIN, apud Namli, 4000 p. s. m., *Kingii mercenar.*!

Folia 18-24 poll. longa, foliolis 8-10 poll. longis 3·5-4 poll. latis utrinque glabris petiolulis ·25 poll. longis. Paniculae 20-25 poll. longae, ramulis 2-4 poll. longis; pedicellis ·1 poll. longis; calyce ·12 poll. longo ·15 poll. lato; corolla ·3 poll. longa, vexillo ·35 poll. lato; legumine 3·5 poll. longo, 1 poll. lato; alis ·15-·2 poll. latis subaequilatis.

This species is very nearly related to *D. thyrsiflora* which it much resembles in flowers and pods except in having them distinctly pedicelled; in this latter respect it more nearly approaches *D. Wallichii* of which we were at first inclined to treat it as a large flowered variety. The much larger leaflets however and the fact that this is a tall tree makes it preferable to treat it as a distinct species.

9. DALBERGIA KINGIANA Prain; frutex scandens lignosa, cortice lenticellato, foliolis 5-7 anguste ovatis apice breviter acuminatis, basi cuneatis supra glabris subtus sparse puberulis, coriaceis. Flores paniculati, paniculis axillaribus, foliis brevioribus, ramulis subcorymbosim dispositis, pedicellis brevissimis; calyce dense ferrugineo, dentibus 3 inferioribus anguste triangulis, summos breviores latioresque excedentibus; petalorum unguibus calyce aequilongis; staminibus 9 monadelphis; ovario glabro 2-ovulato; stylo subulato. Legumen ignotum.

In montibus KACHIN nuncupatis, *Kingii mercenar.*!

Foliola 2·5-3 poll. longa, 1-1·25 poll. lata; rachide 3 poll. longo petiolulis ·2 poll. longis; paniculae 3·5 poll. longae, ramulis 1-1·5 poll. longis, floribus ·25 poll. longis.

Very near to *Dalbergia Benthami* Prain, (*D. rubiginosa* Benth. Flor. Hong-Kong 93, not of Roxb.) from Hong-Kong, but with quite different leaflets and with rather longer panicles of similar flowers. Also near *D. rubiginosa* Roxb., from Western India, but again with different leaflets and rather larger flowers. In general appearance *D. Benthami* resembles *D. rubiginosa*, to which Mr. Bentham has referred it, but the leaflets of the Chinese plant are thicker, narrower towards the tips, and have a different pubescence beneath; the flowers too of the Chinese plant are very like those of the present Kachin species and are considerably larger than there of *D. rubiginosa*.

10. BAUHINIA POTTINGERI Prain; robusta scandens, ramulis lenticellatis, glabris, cortice brunneis; forsan cirrhifera. Folia quam lata parum longiora, basi cordata, quadrante antico sinu angusto apiculato

2-loba; crasse coriacea, supra nervis parce hirsutis exceptis glabra subtus paucissime ferruginea, nervis 9-11, petiolo glabro, stipulis caducis. *Flores* racemosi, racemis terminalibus ferrugineo-velutinis bracteis lanceolatis pedicellos erecto-patentes fere aequantibus, bracteolis bracteis similibus, alabastris clavatis parte superiore oblonga basin ampullaeformem excedente. *Calyx* ferrugineo-pubescentis, limbo 5-partito segmentis oblongo-lanceolatis tubo basin versus parum dilatato. *Petala* 5, subaequalia, oblanceolata obtusa, longe unguiculata magnopere exserta, utrinque dense sericea. *Stamina* 3 fertilia, antheris lineari-oblongis, filamentis medio parum incrassatis. *Ovarium* distincte stipitatum, dense ferrugineum, stylo crasso ferrugineo, stigmatibus obliquo peltato. *Legumen* ignotum.

In montibus KACHIN nuncupatis, inter Namlao et Bansparao, *Pottinger*!

*Folia* 2·5-4 poll. longis, his 2·25-3 poll. latis, petiolo 1-1·3 poll. longo. *Racemis* 6 poll. longis, 4·5 poll. latis, pedicellis ·75 poll. longis; alabastris 1·75 poll. longis. *Calycis* tubo ·75 poll., limbo 1 poll. longo. *Petalis* 2 poll. longis. *Filamentis* 2·5 poll. longis.

A very fine species, nearest to *B. nervosa*, a Khasia plant, from which it differs in its leaves with fewer nerves, its shorter pedicels, and its rather larger petals silky instead of rusty externally. In the size of its flowers its only rival in the group to which it belongs is *B. excelsa* Bl., from Borneo; the shape however of the petals is different, those of *B. excelsa* being narrower and more acute at the apex.

#### SAXIFRAGACEÆ.

11. *HYDRANGEA POTTINGERI* Prain; fruticosa, ramis novellis pubescentibus; *foliis* oblongo-lanceolatis acuminatis margine basi cuneato excepto serratis, utrinque nervis adpresse puberulis ceterum glabris, nervis 9-10-paribus ascendentibus; cyma ampla dichotoma ramis pedicellisque pubescentibus ebracteata, florum radiantium sepalis 3 breviter unguiculatis late ovatis subacutis versus apicem grosse serratis ceterum integris venis prominulis utrinque reticulatis glabris, fertiliis dentibus calycinis triangulis tubo brevioribus; *petalis* . . . ; *staminibus* . . . . . ; *stylis* 3 erecto-patulis ovario globoso parum brevioribus.

In montibus KACHIN nuncupatis, 4100 p. s. m., *Pottinger*!

*Folia* 3-4 pollicaria, 1·25 poll. lata, petiolis ·5-·6 poll. *Cyma* pedunculo 1·25 poll. longo, pedunculis secundariis 1-pollicaribus, pedicellis florum radiantium gracillimis 1·5 poll., pedicellis fertilibus ·2-·25 poll. *Capsula* ·08 poll. diam.

## POTTINGERIA PRAIN.

*Calycis* tubus brevis late campanulatus basi ovarii adnatus, lobis 5 ovatis acutis persistentibus sinubus latis. *Petala* . . . *Stamina* 5 erecta ad marginem disci perigygni affixa, filamentis sursum subulatis, basi parum explanatis ibique extus glandula mediana ornatis; <sup>2</sup> antherae . . . . .; ovarium semisuperum. *Capsula* supera oblonga, longitudinaliter parum 3-sulcata per stylos 3-partibilis stigmatibus cohaerentibus septicide 3-valvis, placentis a marginibus introflexis carpellorum simulac secedentibus persistentibusque, singulis utroque margine semina circa 10 trientè summo tantum fertili gerentibus. *Semina* anguste fusiformia testa crustacea parum reticulata utrinque parum producta; embryo cylindrica majuscula in axe albuminis carnosi.—*Folia* alterna brevipetiolata, 5-nervia. *Cymae* multiflorae axillares. Species singula montium Kachin incola.

12. POTTINGERIA ACUMINATA *Prain*; *folia* ovato-acuminata crasse coriacea utrinque glabra subtus punctata, breve petiolata, margine integra nervis 5 mediano proximisque subaequalibus marginalibus tenuioribus omnibus plus minus subtus prominentibus; *cymae* axillares pedicellis gracilibus calyce paullo longioribus, bracteis parvulis.

In montibus Kachin, 3,000 p. s. m.; *Pottinger*!

*Folia* 2-3·5 poll. longa ·75-1·5 poll. lata, petiolis ·2 poll. longis. *Cymae* 1·5-2 poll. longae 1 poll. latae, pedicellis ·15 poll. longis; *capsulis* ·2 poll. longis ·15 poll. latis.

A very distinct genus of the Tribe *Escalloniae*, apparently best located near *Itea* which it resembles in having a similarly partible style with a similarly half-superior ovary but from which it differs markedly in having 3 instead of 2 carpels and in the capsule so dehiscent that when the valves fall away the three filiform placentas persist. The cinnamon-looking or Melastomaceous-like leaves and the very different inflorescence also help to give it a quite distinct facies.

Unfortunately our solitary specimen has been collected just as the plant was passing out of flower so that the petals and anthers have all dropped, and it is not therefore possible to state whether the former are valvate or imbricate.

## COMBRETACEÆ.

13. TERMINALIA ARGYROPHYLLA *King & Prain*; arbor magna, ramulis gracilibus foliisque utrinque dense tomento adpresso persistente argyreis; *foliis* suboppositis petiolatis ovatis basi rotundatis apice acutis, nervis 8-9-jugis ascendentibus subtus prominulis, petiolis apice 2-glandulosis; *floribus* parvis, lutescentibus, spicatis, spicis in paniculis terminalibus dipositis, bracteolis lanceolatis deciduis quam flores duplo



brévioribus; *calyce* extus glabro limbo late campanulato lobis 5 parvis acutis, intus dense argyreo-villoso, tubo ovato tereti; *fructus*. . . .

In montibus KACHIN nuncupatis; *Kingii mercenar.*!

*Folia* petiolis .75 poll., lamiis 4 poll. longis 1.75 poll. latis. *Spicae* singulae 3.5–4 poll. longae, paniculis 8 poll. longis, 6 poll. latis.

This is very different in foliage from any species of *Terminalia* in Herb. Calcutta or in Herb. Kew; it is reported by the native collector (Shaik Mokim) to be a “timber tree.” The fruits sent as belonging to it are drupes shaped like those of *T. Chebula* but much smaller, being only .5 in. long; as however there are none of them attached to leaf-specimens it must remain for the moment doubtful if they really belong and if therefore the species is really referable to § *Catappa*, which must be the case if the fruits in question be those of this tree.

#### CUCURBITACEÆ.

14. ALSOMITRA PUBIGERA *Prain*; *foliis* breve petiolatis, pedato-5-foliolatis, foliolis petiolulatis, membranceis ovatis, acutis subobtusis vel retusis, margine integris puberulis; basi, terminali excepto, parum obliquis, membranaceis, supra nervis densius ceterum parcissime puberulis; subtus, nervis exceptis, glabris, penninerviis, petiolulisque dense puberulis; cirrhis apice bifidis; *fructu* puberulo; *seminibus* stramineis utrinque spinuloso-rugosis.

In montibus KACHIN nuncupatis, *Kingii mercenar.*!

Alte scandens; rami graciles elongati, ramosi, puberuli sulcati. *Petiobus* vix striatus .4–.5 poll. longus; petioluli, terminalis .3 poll., laterales .15 poll. longi; foliola utrinque intense viridia, 1.5–4 poll. longa, .75–2.5 poll. lata. *Cirrhi* graciles sulcati puberuli. *Paniculae* majusculae valde pluriflorae. *Pedunculus* communis lateralis terminalisve, gracilis parum sulcatus dense puberulus 2–4 poll. longus, pedicelli capillares puberuli .4 poll. longi, bracteolae subulatæ. *Calyx* puberulus segmentis lanceolatis, linearibus, acutis, corolla glabriuscula, segmentis ovatis acutis .1 poll. longis. *Fructus* subcylindricus densius velutino-puberulus, ab apice ad basin leviter attenuatus, apice truncatus, basi subacutus 2.25 poll. longus, .5 poll. crassus. *Semina* ambitu subtriangularia, margine profunde lobata basi oblique attenuata, .3 poll. longa, .25 poll. lata, .15 poll. crassa; ala obliqua alba translucens anguste oblonga, apice rotundata .75 poll. longa, .25 poll. crassa, utrinque areola clypeata spinuloso-rugosa exsculpta.

This very distinct species is most nearly related to *A. clavigeru*, the fruits, except for being densely puberulous, being very like those of that species. But it differs very markedly in its pedate leaves and in its spinulose-rugose seeds. By an oversight a number of flowering speci-

mens of this species have been distributed to various European Herbaria under the name *Gynostemma pedatum*; recipients of these specimens are hereby requested to correct the name. These flowering examples were received in November, 1897, the fruiting ones in January, 1898.

#### ARALIACEÆ.

15. *PENTAPANAX STELLATUM* King; scandens, novellis digito minimo fere crassis, cortice pallido glabro lenticellis ornato. *Folia* pinnata, rachide gracile glabra basi parum dilatata; foliolis 5, jugis 2 cum terminali, late ovatis vel ellipticis, apice abrupte acutis, basi rotundatis margine integris parum recurvis; supra glaberrimis, subtus pilis longioribus stellatis dense obtectis; nervis 4-5-jugis parum incurvis subtus prominulis supra distincte impressis; petiolulis inaequilongis iisque jugi summi fere 0. *Panicula* terminalis basi bracteis lanceolatis pluribus obsita, sparse ferrugineo-puberula, ramis inferioribus patentibus remotis, singulis umbellas plures 15-25-florales pedunculatas ferentibus, parte summa umbellas simplices ferente. *Flores* late oblongi; *calycis* tubo late campanulato, limbo 5-dentato, dentibus latis obtusis; *petalis* late ellipticis. *Fructus* ovoideo-globosus prominenter 5-costatus, glaber.

BURMA: in montibus Shan nuncupatis, apud Fort Stedman; *Kingii mercenar.*!

*Folia* 9-15 poll. longa, foliolis 3-5 poll. longis, 2.5-3.25 poll. latis petiolulis folioli terminalis 1-1.5 poll., lateralium inferiorum .1-1.5 poll. longis, lateralium summorum fere obsoletis. *Panicula* 12-18 poll. longa, ramis inferioribus 3-4 poll. *Flores* .1 poll. lati. *Fructus* .15 poll. longus.

*Pentapanax* is a small genus of which hitherto only six species have been described; and of these only one has hitherto been recorded from Burma. The species now for the first time described differs from all the others in the dense and very peculiar pubescence by which the under surfaces of the leaves are clothed. The hairs are long, flexuose, and united to form large stars of a pale yellowish-brown colour.

16. *HEPTAPLEURUM* (§*Agalma*) LAWRENCEANUM Prain; arbor?, novellis parce puberulis. *Folia* digitata foliolis 7-9, late ellipticis apice mucronulatis, margine integris utrinque glaberrimis, crasse coriaceis; nervis 20-30-jugis obscuris petiolulis glabris. *Panicula* ramosa, ramis puberulis ramulos fere farinoso-puberulos umbelliferos distinctes emitentibus, umbellis 12-20-floris, pedicellis aequilongis floribus parum brevioribus. *Calyx* margine truncatus. *Petala* valvata, circa 7, triangulara, intus glabra extus pilis coactis dense obtecta. *Stamina* petalis isomera antheris oblongo-ovatis sursum parum angustatis. *Fructus*

turbinatus apice truncatus, medio columna cylindrica (stylis connatis) coronatus, 7-angulatus.

BURMA SUPERIOR: in montibus Kachin; *Pottinger!*

*Foliola* 10 poll. longa, 6 poll. lata. *Paniculae* rami pedales, ramulis 1·25 poll. longis, pedicellis ·2 poll. longis. *Flores* ·25 poll. longis, ·2 poll. latis.

17. *DENDROPANAX LISTERI* *King*; arbuscula glabra parva, novellis cortice grosse lenticellatis ex sicco pallide brunneis. *Folia* simplicia, tenuiter coriacea, late elliptica breviter acuminata, basi cuneata, margine integra vel dentibus paucis remotis minutis irregulariter serrata; utrinque glaberrima supra hebetia; subtus reticulato-venosa, nervis secundariis distinctis; costa mediana subtus prominente a basi venas 2 ceteris crassiores fere ad apicem ascendentes saepius etiam 2 tenuiores marginales emittente, lateralibus supra laminam mediam 3-4-jugis curvatis; petiolis gracillimis inaequilongis. *Panicula* axillaris, ramis paucis umbellatis, umbellis 4-5-floris, floribus subglobosis pedicellis gracillimis. *Calycis* tubus subglobosus limbus angustatus margine minute 5-dentatus. *Fructus* sphaericus stylis brevibus basi connatis apice recurvis coronatus.

In montibus DAPHLA nuncupatis, apud Torupati, 5,500 p. s. m., *J. L. Lister!*

Arbuscula 20-pedalis. *Foliorum* laminae 3·5-8 poll. longis, his 1·65-4 poll. latis; petiolis 1·5-7 poll. longis. *Flores* ·15 poll. diam., pedicellis ·3 poll. longis. *Fructus* ·2 poll. diam.

This very distinct *Dendropanax* was collected by Mr. J. L. Lister, in whose honour it is named, when accompanying the Daphla Hill expedition of 1874.

#### CORNACEAE.

18. *ALANGIUM KINGIANUM* *Prain*; frutex scandens, inermis, novellis puberulis; *folia* membranacea, oblongo-ovata, basi truncato-cuneata, apice rotundato demum breviter acuminata utrinque nervis puberulis ceterum punctulata, basi sub-trinervia nervo mediano robustiore nervos ascendentes 5-6-jugos emittente; *flores* in cymis laxis axillaribus foliis multo brevioribus dispositi, pedunculis pedicellisque puberulis; *calyce* dense puberulo breviter 7-dentato, *petalis* lutescentibus extus puberulis saepissime 7, anguste linearibus apice subacutis; *staminibus* 14, filamentis brevissimis pubescentibus, antheris linearibus; *drupis* parcissime adpresse puberulis, parum compressis, longitudinaliter 14-decim lineatis basi roundatis apice subacutis.

In montibus KACHIN nuncupatis, apud Agata Kedan, etc., *Kingii mercenar.!*

*Folia* 4-6 poll. longa, 1·5-2·5 poll. lata, petiolis ·25 poll. longis.

*Cymarum pedunculis* .5-.75 poll., cymis 1 poll. latis 8-12-floris, pedicellis .25 poll. longis. *Flores* .3 poll. tantum longis. *Drupae* .4 poll. longae, .25 poll. latae.

A very distinct species not before represented in Herb. Calcutta or in Herb. Kew; the affinity, Dr. Stapf has been kind enough to note at Kew, is with *Alangium Faberi* Oliv., a species not present at Calcutta.

19. *MASTIXIA EUONYMOIDES* *Prain*; arbor, *foliis* oppositis longiuscule petiolatis, laminis ovatis apice acuminatis basi cuneatis, margine integris, crasse coriaceis, supra intense viridibus subtus prasinis, utrinque glaberrimis, nervis 6-8-jugis subtus distinctioribus parum ascendentibus; *thyrsus* laxis dichotomis, pedunculo ramisque glabris; *flores* ignoti; *fructus* anguste ellipsoideus.

In montibus KACHIN; *Kingii mercenar.*!

*Folia* petiolis .75 poll. longis, laminis 4 poll. longis, 1.75-2 poll. latis; pedunculis 2.5 poll. longis, thyrsis 2-2.5 poll. latis; *fructus* calycis limbo 4-dentato coronatus, .6 poll. longus, .3 poll. crassus.

A very distinct species.

#### RUBIACEÆ.

20. *OPHIORRHIZA LAWRANCEANA* *King & Prain*; caulis brevis basi radicans adscendens vel 0; *folia* elliptico-oblonga, apice acuta basi cuneata, petiolis brevibus parce puberulis, laminis nervis subtus parce puberulis, ceterum utrinque glaberrimis, stipulis e basi trianguli filiformibus, *cymae* longe pedunculatae congestae glabrae, bracteolis spatulatis obtusis glabris persistentibus, *calycis* dentibus brevibus triangulis, *corolla* brevis tubo cylindrico, limbo angustato; *capsula* glabra.

In montibus Kachin nuncupatis, *Kingii mercenar.*!

*Folia* 1.25-3.5 poll. longa, .75-1.5 poll. lata, lurida. *Cymae* .3-5 poll. latae, pedunculis gracilibus 3 poll. longis. *Corolla* .2 poll. longa, tubo angustato.

Very similar to *O. lurida* Hook. fil. from the Eastern Himalaya in size and habit, and no doubt related to that species. The bracts are however different and the corollas are smaller and much narrower.

21. *PAEDERIA CRUDDASIANA* *Prain*; volubilis corolla excepta omnino glaberrima; *folia* opposita petiolata ovata basi truncata apice acuta; *flores* congeste cymosi in paniculis axillaribus terminalibusque laxis per paribus distantibus dispositi; *calycis* dentibus 5 brevibus triangulis, tubo campanulato, bracteolis subulatis; *corolla* extus puberula tubularis, intus dense tomentosa; *fructus* oviformis calycis dentibus coronata.

In montibus KACHIN nuncupatis, *Kingii mercenar.*!

*Folia* 2-5 poll. longa, 1-2.5 poll. lata, petiolis 1-1.25 poll. longis; *paniculae* 4-8 poll. longae, ramis .5-1.5 poll. longis, cymis

singulis terminalibus  $\cdot 5$ – $\cdot 75$  poll. latis. *Corolla*  $\cdot 5$  poll. longa. *Fructus*  $\cdot 25$  poll. longus,  $\cdot 3$  poll. latus.

This very distinct species belongs to the group characterised by having the fruits uncompressed and differs very markedly from the other species of that group in having the fruits egg-shaped, narrowed upwards from the middle, and not subglobose rounded at the top as in *P. tomentosa*. From *P. linearis*, the other Indian species referred to the group, it differs much in foliage—its general facies, except for the fruit, being very much that of the common *P. foetida*.

#### VACCINIACEÆ.

22. AGAPETES POTTINGERI *Prain*; frutex epiphytica, ramis adpresse puberulis et pilis rigide setaceis patentibus ferrugineis simulac obsitis. *Folia* sessilia ovato-lanceolata a basi fere rotundata sensim ad apicem longius acuminatam attenuata, margine integra, coriacea, utrinque glabra, nervis 8–10-jugis supra distinctioribus. *Inflorescentia* corymbosa ramiflora pedunculo pubescenti bracteis rigidis cincto, pedicellis gracilibus pubescentibus basi bracteatis, bracteis majusculis ovato-lanceolatis rigidis striato-reticulatis margine puberulo excepto glabris. *Calycis* tubo globoso cum apice pedicelli parum ampliati articulato extus pilis longis fulvis setaceis apice glandulosis patentibus obsito, limbo campanulato margine 5-dentato prorsus reticulato, dentibus triangulis quam partem limbi connatam brevioribus, intus glabro extus pilis flaccidis longis sparse pubescente. *Corolla* tubulosa recta medio parum ampliato sub limbo breviter 5-lobo lobis late triangulis subobtusis parum contracta, extus parce pilis flaccidis pubescente, lobis viridibus ceterum rubris nec lineis notatis. *Stamina* 10, epigyna, libera, filamentis antheras fere aequantibus, antherisque glabris; antherarum tubulis corallae limbum vix attingentibus, dorso 2-calcaratis. *Ovarium* 5-loculare stylo filiformi apice brevissime 5-lobulato ovulis numerosis.

In montibus KACHIN nuncupatis, 4100 p. s. m., *Pottinger*!

*Folia* 5–7 poll. longa, 1·5–2·25 poll. lata. *Corymbis* paucifloris 1·5 poll. longis, pedunculis  $\cdot 2$  poll., pedicellis  $\cdot 5$  poll. longis, bracteis  $\cdot 2$ – $\cdot 25$  poll. longis. *Calycis* tubo  $\cdot 1$  poll., limbo  $\cdot 35$  poll. longo, dentibus  $\cdot 15$  poll. longis. *Corolla*  $\cdot 65$  poll. longa.

This remarkably distinct species is separable from all hitherto described *Agapetes* by its large bracts and its large calyx-limb, the teeth of which are not partite to the disk as in our other species. It may be taken therefore as the type of a distinct section (§ *Holocalyx*) to be distinguished as follows from the other sections defined in the *Genera Plantarum* ii. 571:—

§ HOLOCALYX. *Corolla* elongata recta parum ventricosa breviter

5-fida lobis erectis. Stamina recta antherae dorso calcaratae. Bracteae majusculae, calycis limbus in dentibus 5 prorsus haud solutus.

#### DESMOGYNE KING & PRAIN.

*Calycis* tubus teres pedicelli apice ampliato crateriformi involutus subglobosus; limbus magnopere ampliatus late campanulatus, margine integer, persistens. *Corolla* tubulosa anguste infundibularis, elongata, tubo terete recto breve 5-lobo, lobis erectis. *Stamina* 10, epigyna, corolla aequilonga filamentis glabris basi inter se et a tubo corollae liberis; antherae elongatae rectae liberae dorso muticae tubulis connatis tenuibus strictis membranaceis, loculis extus muriculatis. *Ovarium* 5-loculare; stylus filiformis stigmatate lobulato; ovula in loculis singulis numerosa placentis angulo interiori adnatis.—Frutices epiphytici, foliis alternis persistentibus breviter petiolatis coriaceis integris. Species singula, montium Indiae transgangeticae incola.

23. DESMOGYNE NERIIFOLIA King & Prain; frutex epiphytica, ramis glabris gracilibus. *Folia* alterna oblongo-lanceolata apice longe caudato-acuminata basi rotundata breve petiolata margine integra, crasse coriacea nervis mediano subtus prominente supra impresso excepto obscuris. *Inflorescentia* corymbosa pedicellis versus apicem pedunculi sursum incrassati in axillis bractearum triangularum approximatis; pedicellis sursum incrassatis apice cupularibus. *Calycis* tubus globosus in fundo epicalycis articulatus eoque involutus, limbus inflatus late campanulatus margine integer prorsus prominenter reticulatus. *Corolla* elongata recta infundibuliformis 5-loba, lobis brevibus triangularibus. *Stamina* 10, epigyna libera filamentis brevibus antheris elongatis erectis apicibus corollae limbum attingentibus, dorso muticis. *Ovarium* 5-loculare, stylo filiformi apice breviter 5-lobulato; ovulis numerosis. *Fructus* ovatus calycis limbo persistente coronatus.

BURMA: in montibus Chin etiam in montibus Kachin, *Kingii mercenar.* !

*Folia* 4-6 poll. longa .7-9 poll. lata; petiolis .2 poll. *Pedunculi* axillares ad 2.5 poll. usque longi, bracteis triangulis .1 poll. longis, pedicellis 1.2 poll.; *calycis* tubo .15 poll. longo, limbo .3 poll. longo latoque. *Corollae* tubo 1.5 poll. longo, limbo .5 poll. diam., lobis .2 poll. longis. *Fructus* .4 poll. longus, .35 poll. diam.

A very distinct species of the group of *Vacciniaceae* that constitutes the "genera" *Agapetes* G. Don., and *Pentapterygium* Klotzsch. From all *Pentapterygia* it differs in having the calyx neither winged nor ridged and while agreeing with *Agapetes* in having a smooth calyx tube it differs from all the known species of that genus in having the calyx-limb large, entire and widely campanulate, and, further,

in having the calyx-tube enveloped by the expanded cupular apex of the pedicel. With reference to this last character the name *Desmogyne* (δεσμός, a bandage; γυνή) has been applied to the plant. We feel inclined to think that *Agapetes* and *Pentapterygium*, which are distinguished solely by the absence from the former, the presence in the latter, of ribs or wings to the calyx, are hardly separable as genera. If these two could be united our plant would then be the type of a section *Desmogyne* within this enlarged *Agapetes*. But seeing that in the three most authoritative treatises on the genera of plants—the *Genera Plantarum*, the *Histoire des Plantes*, and the *Natürlichen Pflanzenfamilien*,—Messrs Bentham and Hooker, Baillon, and Drude have considered it necessary to keep *Pentapterygium* apart from *Agapetes*, we are constrained to give our *Desmogyne*, at least for the present, the rank of a genus; it differs more markedly from either *Agapetes* or *Pentapterygium*, than these two differ from each other. The undivided calyx-limb, at first sight a more remarkable feature than the ball and socket arrangement at the apex of the pedicel is not really so important a difference as it appears; the species immediately preceding this (*Agapetes Pottingeri* Prain) stands intermediate as regards calyx-limb between this and the other *Agapetes* since the limb though 5-lobed at the margin is there also campanulate and gamophyllus below.

Dr. Stapf who has examined and kindly compared one of our specimens at Kew agrees with us in thinking that so long as *Pentapterygium* is kept apart from *Agapetes* our plant had better receive generic rank. If *Pentapterygium* could only be reduced to *Agapetes* the present species would probably have to be included in this enlarged genus as *Agapetes Desmogyne* King & Prain.

#### PRIMULACEÆ.

24. *LYSIMACHIA EVALVIS* Wall. in *Roxb. Flor. Ind.* ed. Carey & Wall. ii. 27 VAR. *grandifolia* Prain; *folia* 6 poll. longa, 2·25 poll. lata; *pedunculi* 2 poll. longi.

In montibus KACHIN, apud Neochawng 2,500 p. s. m., *Pottinger*!

This may prove, when more completely represented, to be a distinct species.

#### SOLANACEÆ.

25. *SOLANUM FEROX* Linn. *Sp. Pl.* ed. ii. 267 VAR. *inermis* Prain; omnino nisi aculeis absentibus cum *S. feroce* convenit.

In montibus KACHIN nuncupatis, *Kingii mercenar.*!

The collector's note is "Moima villge; flowers white." There is not a character whereby the plant can be separated from *S. ferox* except

the complete absence of any trace of prickles whether on leaves or stems, and in the less numerous needle-like hairs on the fruits.

It is well-known that many forms of *S. Melongena* under cultivation entirely lose their armature; it is interesting to find that the same may apparently happen with a wild species like *S. ferox* when growing as a weed in the rich soil that characterises the vicinity of an Indian hill-village.

#### GESNERACEÆ.

26. *AESCHYNANTHUS GRANDIFLORA* Spreng. *Syst. Veg.* iv. 238 VAR. *longiflora* Prain; floribus 2·25 poll. longis, ceterum typi.

In montibus KACHIN, *Kingii mercenar.*!

27. *AESCHYNANTHUS MICRANTHA* Clarke in *Flor. Brit. Ind.* iv. 340 VAR. *Pottingeri* Prain; capsulis 10-pollicaribus, ceterum omnino typi.

In montibus KACHIN, *Kingii mercenar.*!

Quite possibly both these *Aeschynanthi*—of which the first is only reported in flower, the second only in fruit—may prove when fully represented to deserve specific rank.

28. *AESCHYNANTHUS PUSILLA* Prain; rami elongati gracillimi, sparse pilosi, nodibus prorsus radicanter, *foliis* ternatis parvis ovatis apice acutis, basi cuneatis, 3 poll. longis 2 poll. latis utrinque pilis albidis multicellularibus villosis, nervis obscuris, margine integris petiolis distinctis (15 poll. longis), villosis; *floribus* paucis terminalibus et in axillis superioribus, ad nodos singulis, pedicellis gracilibus, 2 poll. longis, dense pilosis; *calyce* 5-partito, segmentis lanceolatis tuboque anguste campanulato pilis patentibus dense villosis; *corolla* extus parce puberula, pallide flava limbum versus viridescente, lobis ipsis intus tantum purpurascens, tubo 1 poll. longo dimidio inferiore peranguste cylindrico, dimidio superiore anguste infundibuliformi, limbo 2 poll. lato; filamentis inclusis filiformibus glabris; *capsula* adhuc ignota.

In montibus KACHIN nuncupatis; *Kingii mercenar.*!

This graceful little species may be tentatively referred to the section *Haplotrichium*, its general facies indicating that it is probably closely allied to *Aeschynanthus gracilis*; till fruiting specimens are obtained, however, its precise position must remain problematical.

29. *DIDYMOCARPUS ELATIOR* Prain; suffrutescens; rami juniores pilis divergentibus rufescentes demum glabrati; *folia* ovato-lanceolata basi cuneata apice acuminata margine minute serrata, petiolata, petiolis rufo-pubescentibus, laminis supra parce adpresse puberulis subtus præsertim nervis pubescentibus; *cymæ* paucifloræ axillares pedunculis gracilibus elongatis puberulis; bracteæ lanceolatae; pedicelli calyce



parum longiores saepius singuli; *calyx* campanulatus ad medium usque fissus dentibus ovato-acutis tubum aequantibus; *corolla* tubulosa fere recta extus parcissime puberula, subsymmetrica, pallide purpurea; *capsula* in pedicello erecta.

In montibus KACHIN, apud Sim, 5,000 p. s. m., prope rivulis; *Kingii mercenar.*!

*Foliorum* laminis 3 poll. longis, 1·25–1·5 poll. latis, petiolis ·75 poll. longis; pedunculis 1·5 poll. longis saepius 3-floris, nonnunquam (floribus lateralibus geminis) 5-floris; pedicellis ·4 poll. longis; *calyce* ·25 poll. longo; *corolla* 1·2 poll. longa; *capsula* 1–1·25 poll. longa ·15 poll. lata.

A very distinct species, in habit most resembling *D. corchorifolia* Wall., from Penang and Malacca.

#### ACANTHACEÆ.

30. RHINACANTHUS CALCARATUS *Nees* in *Wall. Pl. As. Rar.* iii. 109  
VAR. *maxima* *Prain*; *foliis* utrinque parcissime puberulis, panicula condensata; *corollae* tubo 1·5 poll. longo; *capsula* 2 poll. longa.

In montibus KACHIN, *Kingii mercenar.*!

This will probably have to be considered a distinct species, *Rhinacanthus maximus*, when full material of the original species is obtained; as yet the fruit of *Nees'* plant has not been collected. The present plant has leaves that are exactly like those of the type in size and texture; they only differ in being faintly puberulous on both sides, those of *Nees'* plant being glabrous; its calyx and corolla are exactly like those of *Wallich's Pl. As. Rar.* t. 113 except that they are distinctly larger.

#### HAEMODORACEÆ.

31. OPHIOGON CORDYLINOIDES *Prain*; caule rigide erectiusculo, crasso, nodis nec radicante, vaginibus ovatis viridibus margine late scariosis mox deciduis suffulto, *foliis* late lanceolatis acuminatis 15–17-nervis, petiolis angustis brevibus basi vaginis scariosis expansis, *scapis* quam folia fere dimidio brevioribus, bracteis scariosis, pedicellis vix longioribus, *floribus* fasciculatis, albidis, quam pedicellos brevioribus, segmentis ovato-oblongis, antheris lanceolatis filamentis brevissimis, stylo filiformi; *fructu* orbiculari.

In montibus KACHIN, apud Namli, 2000 p. s. m., *Pottinger!* *Kingii mercenar.*!

Caulis penna cygni crassus, foliis 8–12 poll. longis, ·75–1 poll. latis, petiolis vix 1 poll. longis. *Racemi* 3–4 poll. longi, bracteis ·3 poll. longis, pedicellis 25 poll. longis, *perianthio* ·2 poll. longo, ·3 poll. lato; *fructu* ·2 poll. diam.

A very distinct species with an elongated stem as in *C. dracaenoides*, but without roots at the nodes whence arise the tufts of leaves; the vaginal sheaths are exactly as in *C. dracaenoides* but the leaves proper are longer and narrower and have shorter petioles. The flowers are much as in *C. dracaenoides* but are slightly smaller; the fruits are considerably smaller.

#### LILIACEÆ.

32. *DISPORUM PULLUM* *Salisb. Trans. Hort. Soc. i. 330.* VAR. *oblanceolata* *Prain*; *foliis* oblanceolatis, acuminatis, 8 poll. longis 2·5 poll. latis, fasciculis circa 15-floris, pedicellis 1·25 poll. longis, *fructibus* ovatis subacutis 2 poll. longis.

In montibus KACHIN, apud Lammuk, *Pottinger*!

This is unfortunately only represented by one specimen which is without flowers. It is obviously most nearly related to *D. pullum* of which it is for the moment treated as a variety, though there is hardly room for doubt that when more fully represented it must be considered a distinct species.

#### COMMELYNACEÆ.

33. *STREPTOLIRION VOLUBILE* *Edgew. Trans. Linn. Soc. 90 t. 2.* VAR. *setosa* *Prain*; *caulibus*, *petiolis*, *foliorum marginibus*, *pedicellis*, *bractearumque marginibus*, pilis fuscis rigidioribus densius setosis; *ceterum typi.*

In montibus KACHIN; *Kingii mercenar.!*

The setose stems, petioles and leaf margins give this plant a very distinctive facies, but it cannot be separated by any other character from typical *S. volubile*, which is likewise sent by the same collector from the Kachin Hills, and it will probably be found unnecessary to accord this more than varietal rank.

#### AROIDEÆ.

34. *TYPHONIUM INOPINATUM* *Prain*; *foliorum* petiolis quam lamina triplo longioribus; lamina ovata apice acuta base sinu latiore cordata; *pedunculo* petioli partem vaginalem fere aequante; *spathae* tubo sub-orbiculari quam lamina prorsus suberecta sensim acuminata sexties brevior; tubo utrinque viridi, limbo viridi extus basi lineatim obscure purpurascente intus basi lineis sursum maculis purpureis notato; *inflorescentia* foeminea fertili quam mascula multo brevior, pistillodiis perpaucis simplicibus vel bifurcatis parum recurvis; spadicis appendice tereti anguste conoidea vix stipitata reliquam spadicis partem parum excedente.

In BURMA superiore prope Myitkyina, *Kingii mercenar.!*

*Foliorum* petioli 1·5–2 dm., pars vaginalis 4–5 cm., lamina aequae 8 cm. longa lataque, sinu aequae 2 cm. lato altoque. *Pedunculus* 4–5 cm. longus, spathae tubus 2 cm. longus, 1·5 cm. latus, limbus 9–10 cm. longus, triente imo 4·5 cm. latus apice subacutus. *Inflorescentia* mascula cylindrica pallidiflora 1 cm. longa 4·5 cm. lata, antherarum thecae rimis porosis apertae; pars foeminea pallide punicea 2 cm. longa 5 cm. lata, pistillodiis basi purpureis medio albis apice viridescentibus explanatis 5 cm. longis. *Inflorescentia* tota 8 cm. longa, parte sterili 5 cm. longa. *Fructus* baccatus viridis pallide rubro-suffusus, ovalis, 5 cm. longus, 4 cm. diam.

This interesting species was first noticed in Oct. 1895, in one of the flower-beds in the Royal Botanic Garden, in which it had appeared spontaneously. A drawing was made and sent with specimens to Kew, where it was examined by Mr. N. E. Brown, of the Kew staff, a very able student of *Aroidæ*; Mr. Brown agreed with us in thinking it new. No light could be thrown, at the time of its first being noticed, on its original habitat, though its introduction had apparently not been recent, seeing that it was subsequently found, when looked for, in almost every part of the Botanic Garden. The communication of specimens from Myitkyina in Northern Burma seems at last to definitely settle the original source of the species. It is noteworthy that the commonest of the *Typhonia* in and around the Royal Botanic Garden, *Typhonium trilobatum* Schott (*Arum trilobatum* Linn. = *Arum orixense* Roxb.), is evidently a plant introduced here during or since Roxburgh's incumbency as Superintendent (1793–1815). Roxburgh did not collect it in Bengal and we have been unable to find it in Bengal ourselves, or to learn that any one has found it in Bengal except in the immediate neighbourhood of these Gardens—where it is scarce, and inside them—where it is abundant. Next most common in these Gardens is *T. inopinatum*, the species just described, while fairly plentiful but less common than either is a species that during Roxburgh's superintendentship was accidentally introduced from the Moluccas, and that he has described as *Arum trilobatum* in *Flora Indica*, iii. 505, but that is not the *Arum trilobatum* of Linnaeus, *Sp. Pl.* ed. princeps, though it was included by Linnaeus with the true *T. trilobatum* in his *Systema* ed. x. and his *Sp. Pl.* ed. ii. The true *Typhonium trilobatum* is based on a figure by Hermann (*Par. Bat.*) of the Ceylon "Panuala" which Thwaites, Trimen and others identify with *Arum orixense* Roxb. whereas Roxburgh's plant is the same as Rumphius' *Arisarum amboinicum* (*Herb. Amboin.* V. t. 110, f. 2). It is usual to give the name *Typhorium Roxburghii* to Roxburgh's plant, on the authority of Schott, but there is a slight objection to this in the fact that Schott gives a figure of the plant which he names *T. Roxburghii*

and which he takes to be Roxburgh's one, but which differs altogether from Roxburgh's in habit, in length of peduncle (twice instead of half as long as vaginal portion of leaf-stalk), size of spathe, nature of pistilodes, distance between male and female portions of inflorescence and space between male inflorescence and barren appendix. This misidentification is the more inexplicable since Roxburgh has left a very accurate coloured drawing of the plant intended by him, a drawing that has been copied by Wight as his  *Ic. t. 803*, and since Schott himself expresses a doubt whether the plant which he figures as *T. Roxburghii* be the same as the *Arisarum amboinicum* Rumph. V., t. 100 f. 2, with which Roxburgh identified his plant. The coloration of the plant figured by Saunders (*Ref. Bot. t. 283*) closely approximates to the true Roxburghian plant, but the tip of the spathe does not twist as in *T. Roxburghii*, the plant which Roxburgh figures. The tip of the spathe does not twist in the figure given by Rumphius though the account given of the colour in the *Herb. Amboinense* agrees well enough, and for the matter of that, the tip does not always twist in the plant as it grows; the chief objection to Rumphius' plant being ours is that its peduncle is much too long. What makes matters more complicated is that we have yet another species of *Typhonium* which grows, as if wild, in the Royal Botanic Garden, and which has all the characters of the plant that Schott figures. This species, for the writer is inclined to treat it as a distinct plant, has a white barren appendix in place of the bright red or terracotta coloured appendices of *T. trilobatum* and *T. inopinatum* or the dark purple very long and slender appendix of Roxburgh's plant from the Moluccas. Perhaps the simplest solution of the tangle is to quote the Moluccas plant as *Typhonium Roxburghii* Schott (as to citation *T. trilobatum* Roxb.) *Aroid. i. 12* (excl. t. 17), *Prodr. 106* (*in part*); Saunders, *Ref. Bot. t. 283* = *Arum trilobatum* Roxb. *Flor. Ind. iii. 505*; Wight,  *Ic. t. 803*; and to cite the hitherto unnamed and undescribed Botanic Garden species which Schott has figured, as a new species, *Typhonium Schottii* Prain = *T. Roxburghii* Schott *Aroid. t. 17* (excl. *descript.*). A reference to the original works will show that in his *Prodromus*, Schott describes the coloration of *T. Roxburghii* in terms that are only applicable to Roxburgh's Moluccan plant, and says that the description is based on dried specimens and drawings; in his *Aroid-dee*, Schott does not venture to describe colours and it may be safely assumed from this that both the description and the drawing are from dried specimens only. Even if in both instances the description may be held to include Roxburgh's plant, yet the drawing is certainly that of another species. As yet we have been unable to find where *T. Schottii* is really wild. The only truly wild and unIntroduced species in Lower Bengal is

*T. cuspidatum* Bl., and curiously enough this happens to be much the rarest of the five that are to be found within the limits of the Gardens. We have been unable to find it noted that the otherwise excellent figure which Blume gives of *T. cuspidatum* makes the curious mistake of reversing the position of the lower pistillodia. These are cymbiform organs with the concavity directed upwards in the natural state; in Blume's figure the concavity is made to look downwards.

Before leaving this subject it may be pointed out that though Roxburgh has cited Loureiro's *Arum trilobatum* as equivalent to his *A. orixense*, this is by no means clearly the case. The pistillodia of *A. orixense* (the true *A. trilobatum*) are, as Roxburgh describes them, yellow; those of *A. trilobatum* Loureiro, are described, on the other hand, as red. The truth is that the genus *Typhonium* requires more careful and extended study, from living plants, than it has yet received.

35. TYPHONIUM LISTERI Prain; *foliorum* petiolis quam lamina dimidio longioribus; lamina pedatisecta 5-foliolata, segmentis mediano sessili reliquis per paria breve petiolulatis omnibus anguste ovatis basi cuneatis apice sensim acuminatis; *pedunculo* purpureo brevissimo bracteis cataphyllariis obtecto; spathae tubo subcylindrico quam spatha subito refracta quadruplo brevior; tubo extus laete viridi intus lutescenti, limbo extus margine purpurea excepta laete viridi intus purpurascens; *inflorescentia* foeminea fertili quam mascula parum tantum brevior, pistillodiis paucioribus majusculis ligulatis deflexis purpureis; spadicis appendice tereti parum stipitata basi plus minus obliqua concolore lactea, abrupte refracta et spathae limbo involuta reliquam spadicis partem triplo longiore.

In prov. CHITTAGONG; *Lister!* in ASSAM; *Watt!*

*Foliorum* petioli 2·5–3 dm. longi, pars vaginalis 1·5 cm., cataphyllis spathaceis 3–7 cm. longis; laminae segmentis 1·4 dm. longis, 6 cm. latis. *Pedunculus* vix 1 cm. longus, spathae tubus 4 cm. longus, 2 cm. latus, limbus angulo angulum rectum parum excedente refractus 1·4 dm. longus, 7 cm. latus apice acutus. *Inflorescentia* mascula cylindrica 1·7 cm. longa, 9 cm. lata, pars foeminea conica 1 cm. longa, basi 1·5 cm. lata; parte sterili 1·2 dm. longa, 1·2 cm. lata.

A very distinct species.

36. TYPHONIUM POTTINGERI Prain; *foliorum* petiolis quam lamina duplo longioribus, lamina profunde tripartita partitionibus subaequilongis intermedia oblongo-elliptica acuta, lateralibus oblongo-lanceolatis, lobo triplo brevior oblongo-obtusosubretusos auctis; *pedunculo* quam petioli pars vaginalis duplo brevior; spathae tubo ovato vel oblongo quam lamina imo tertio ovata erecta sursum recurva et sensim longe acuminato-caudata octies brevior; tubo extus viridi intus rubescente,

limbo basi tantum intus rubescente supra puniceo-maculata extus colore pallide viridi; *inflorescentia* foeminea fertili quam mascula multo brevior, pistillodiis numerosissimis varie flexis; spadicis appendice tereti anguste conoidea breviter stipitata reliquam spadicis partem magnopere excedente.

In montibus KACHIN, prope Myitkyina, *Kingii mercenar.!*

*Foliorum* petioli 2-2.5 dm., pars vaginalis 2.5-3 cm., laminae partitiones .8-1.2 dm. longae .75-1 dm. latae, lobi lateralium basales 4-6 cm. longi, 3-4 cm. lati. *Pedunculus* 1-1.5 cm. longus; spathae tubus 3 cm. longus, 2.5 cm. latus limbi pars triens inferior 7 cm. longa, 9 cm. lata pars summa caudata reflexa basi 3.5 cm. lata, 1.4 dm. longa, sensim apice longe acuminata attenuata. *Inflorescentia* mascula cylindrica rubra 1 cm. longa .7 cm. lata antherarum thecae rimis porosis apertae; pars foeminea alba .5 cm. longa, .85 cm. lata, pistillodiis albis explanatis 1.2-1.5 cm. longis. *Inflorescentia* tota 4 dm. longa, appendice sterili 16 dm. longa.

In addition to the forgoing *Aroides*, an undescribed *Amorphophallus*, which has been included in a *List of Kachin Plants*, published in the *Records of the Botanical Survey of India* as *A. Cruddasianus*, should be here alluded to. Complete material has been sent by our Garden Collector, but for the moment we prefer to withhold a detailed description till living flowers are available, when an accurate account of the coloration can be given. Our collector has sent also a number of living tubers, but during the past season these have sent up leaves only. The tubers alone, however, furnish characters that are sufficiently diagnostic; in place of being oval or depressed, as in other *Amorphophalli* hitherto described, these in *A. Cruddasianus* are long and parsnip-shaped, 6-10 in. long, 2-3 in. across the top.

*New species of Entada from Singapore and Borneo.*—By H. N. RIDLEY, Esq., M.A., F.L.S., *Director, Botanic Gardens, Singapore.* Communicated by SURGEON-MAJOR D. PRAIN.

The genus *Entada* is represented in the Malay Peninsula by the well-known *E. pursaetha*, and a species very common in Singapore which seems to have been entirely overlooked, although it is very conspicuous here from its very remarkable fruit. To this plant I propose to give the name *Entada spiralis*.

*E. SPIRALIS*, n. sp. A woody climber with twisted somewhat flattened spiral stems about 3 in. wide and 1-2 in. thick in the thickest part in large specimens; thinner on the outer edge of the curve. *Leaves* alternate three inches long (excluding the tendril), petiole one